

Supplementary Table 10: Network molecules

| Symbol   | Gene Set | Entrez Gene Name  | Networks | Overlapping Network | Location            | Top Function  | Canonical Pathway (top 7)  |
|----------|----------|---|----------|---------------------|---------------------|---|--|
| PLG      | A        | plasminogen   | 1        | ON1                 | Extracellular Space | Organ Morphology, Reproductive System Disease, Cancer                         | Acute Phase Response Signaling   |
| IL6R     | A        | interleukin 6 receptor  | 2        | ON1                 | Plasma Membrane     | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism | Acute Phase Response Signaling   |
| AGT      | B        | angiotensinogen (serpin peptidase inhibitor, clade A, member 8)               | 1        | ON1                 | Extracellular Space | Organ Morphology, Reproductive System Disease, Cancer                         | Acute Phase Response Signaling   |
| MAP3K1   | B        | mitogen-activated protein kinase kinase kinase 1, E3 ubiquitin protein liga 1 |          | ON1                 | Cytoplasm           | Organ Morphology, Reproductive System Disease, Cancer                         | Acute Phase Response Signaling   |
| FN1      | B        | fibronectin 1   | 2        | ON1                 | Extracellular Space | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism | Acute Phase Response Signaling   |
| OSM      | B        | oncostatin M  | 2        | ON1                 | Extracellular Space | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism | Acute Phase Response Signaling   |
| PTPN11   | B        | protein tyrosine phosphatase, non-receptor type 11                            | 2        | ON1                 | Cytoplasm           | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism | Acute Phase Response Signaling, Leukocyte Extravasation Signaling, Chemokine Signaling |
|          |          |   |          | ON1                 |                     | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism | Acute Phase Response Signaling, Leukocyte Extravasation Signaling                      |
| P38 MAPK | --       |   | 2        | ON1                 | Cytoplasm           | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism |  |
| SAA      | --       |   | 2        |                     | Nucleus             | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism | Acute Phase Response Signaling   |
|          |          |   |          |                     |                     | Lipid Metabolism, Small Molecule Biochemistry                                 | Acute Phase Response Signaling   |
| NR3C1    |          | nuclear receptor subfamily 3, group C, member 1 (glucocorticoid receptor 5    |          |                     | Nucleus             |   |  |

|                |          |   |   |  |     |                     |   |   |
|----------------|----------|---|---|--|-----|---------------------|---|---|
|                |          |   |   |  | ON1 |                     | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism                           | Acute Phase Response Signaling, Glioma Signaling, Chemokine Signaling             |
| ERK1/2         | --       |   | 2 |  | ON1 | Cytoplasm           | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism                           | Acute Phase Response Signaling, Glioma Signaling, Chemokine Signaling             |
| MAP2K1/2       | --       |   | 2 |  |     | Cytoplasm           |   |   |
| CXCL12         | <b>A</b> | chemokine (C-X-C motif) ligand 12           | 2 |  | ON1 | Extracellular Space | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism                           | Atherosclerosis Signaling, Leukocyte Extravasation Signaling, Chemokine Signaling |
| CXCR4          | <b>B</b> | chemokine (C-X-C motif) receptor 4          | 2 |  | ON1 | Plasma Membrane     | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism                           | Atherosclerosis Signaling, Leukocyte Extravasation Signaling, Chemokine Signaling |
| MMP13          | <b>B</b> | matrix metalloproteinase 13 (collagenase 3) | 2 |  | ON1 | Extracellular Space | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism                           | Atherosclerosis Signaling   |
|                |          |   |   |  | ON1 |                     | Lipid Metabolism, Molecular Transport, Small Molecule Biochemistry                                      | Atherosclerosis Signaling   |
| TGFB1          |          | transforming growth factor, beta 1          | 6 |  | ON1 | Extracellular Space | Cellular Growth and Proliferation, Hematological System Development and Function, Inflammatory Response | Atherosclerosis Signaling   |
| Collagen(s)    | --       |   | 6 |  |     | Extracellular Space |   |   |
| PDGFD          | <b>A</b> | platelet derived growth factor D            | 8 |  | ON1 | Extracellular Space | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism                           | Atherosclerosis Signaling, Glioma Signaling                                       |
| LPL            | <b>A</b> | lipoprotein lipase                          | 1 |  | ON1 | Cytoplasm           | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism                           | Atherosclerosis Signaling, LXR/RXR Activation                                     |
|                |          |   |   |  | ON1 |                     | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism                           | Atherosclerosis Signaling, LXR/RXR Activation                                     |
| LDL            | --       |   | 2 |  | ON1 | Plasma Membrane     | Organ Morphology, Reproductive System Disease, Cancer   | Atherosclerosis Signaling, LXR/RXR Activation, Acute Phase Response Signaling     |
| NFkB (complex) | --       |   | 1 |  |     | Nucleus             |   |   |

|         |  |        |     |  |                      |   |   |
|---------|--|--------|-----|--|----------------------|---|---|
| TNF     | tumor necrosis factor  | 3      |     |  | Extracellular Space  | Organismal Development, Amino Acid Metabolism, Small Molecule Biochemistry    | Atherosclerosis Signaling, LXR/RXR Activation, FXR/RXR Activation, Acute Phase Response Signaling |
| APOB    | <b>A</b> apolipoprotein B (including Ag(x) antigen)                  | 1      | ON1 |  | Extracellular Space  | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism | FXR/RXR Activation  |
| SCARB1  | <b>B</b> scavenger receptor class B, member 1                        | 2      | ON1 |  | Plasma Membrane      | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism | FXR/RXR Activation  |
| HNF1A   | <b>B</b> HNF1 homeobox A   | 8      | ON1 |  | Nucleus              | Cell Signaling, Cell Morphology, Cellular Assembly and Organization           | FXR/RXR Activation  |
| SLCO1B1 | <b>B</b> solute carrier organic anion transporter family, member 1B1 | 8      | ON1 |  | Plasma Membrane      | Cell Signaling, Cell Morphology, Cellular Assembly and Organization           | FXR/RXR Activation  |
| Jnk     | --   | 2      |     |  | Cytoplasm            | Organ Morphology, Reproductive System Disease, Cancer                         | FXR/RXR Activation, Leukocyte Extravasation Signaling   |
| HNF4A   | hepatocyte nuclear factor 4, alpha                                   | 4      | ON2 |  | Nucleus              | Lipid Metabolism, Molecular Transport, Small Molecule Biochemistry            | FXR/RXR Activation  |
| Akt     |  |        | ON1 |  |                      | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism | FXR/RXR Activation, Acute Phase Response Signaling, Glioma Signaling                              |
| CDKN2A  | <b>A</b> -- cyclin-dependent kinase inhibitor 2A                     | 2<br>1 | ON1 |  | Cytoplasm<br>Nucleus | Organ Morphology, Reproductive System Disease, Cancer                         | Glioma Signaling  |
| CDKN1A  | <b>B</b> cyclin-dependent kinase inhibitor 1A (p21, Cip1)            | 1      | ON1 |  | Nucleus              | Organ Morphology, Reproductive System Disease, Cancer                         | Glioma Signaling  |
| E2f     | --   | 1      | ON1 |  | Nucleus              | Organ Morphology, Reproductive System Disease, Cancer                         | Glioma Signaling  |
| Rb      | --   | 1      |     |  | Nucleus              | Organ Morphology, Reproductive System Disease, Cancer                         |   |

|                |          |  |   |     |                     |   |   |
|----------------|----------|--|---|-----|---------------------|---|---|
|                |          |  |   | ON1 |                     | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism                         | Glioma Signaling, Leukocyte Extravasation Signaling |
| PI3K (complex) | --       |  | 2 | ON1 | Cytoplasm           | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism                         |   |
| Pkc(s)         | --       |  | 2 |     | Cytoplasm           | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism                         | Glioma Signaling, Leukocyte Extravasation Signaling |
|                |          |  |   | ON1 |                     | Neurological Disease, Cell-To-Cell Signaling and Interaction, Nervous System Development and Function | Glioma Signaling, Chemokine Signaling               |
| Calmodulin     | --       |  | 8 |     | Cytoplasm           |   |   |
| APOA5          | <b>A</b> | apolipoprotein A-V                                   | 1 | ON1 | Extracellular Space | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism                         | LXR/RXR Activation                                  |
| LDLR           | <b>A</b> | low density lipoprotein receptor                     | 2 | ON1 | Plasma Membrane     | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism                         | LXR/RXR Activation                                  |
|                |          |  |   | ON1 |                     | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism                         | LXR/RXR Activation                                  |
| HDL            | --       |  | 1 | ON1 | Plasma Membrane     | Organ Morphology, Reproductive System Disease, Cancer   | LXR/RXR Activation                                  |
| N-cor          | --       |  | 1 | ON1 | Nucleus             | Organismal Development, Amino Acid Metabolism, Small Molecule Biochemistry                            | LXR/RXR Activation                                  |
| NOS2           |          | nitric oxide synthase 2, inducible                   | 6 | ON1 | Cytoplasm           | Lipid Metabolism, Molecular Transport, Small Molecule Biochemistry                                    | LXR/RXR Activation                                  |
| TLR4           |          | toll-like receptor 4                                 | 6 |     | Plasma Membrane     |   |   |
| ABCG8          | <b>A</b> | ATP-binding cassette, sub-family G (WHITE), member 8 | 1 | ON1 | Plasma Membrane     | Lipid Metabolism, Molecular Transport, Small Molecule Biochemistry                                    | LXR/RXR Activation, FXR/RXR Activation              |
| APOA1          | <b>A</b> | apolipoprotein A-I                                   | 1 | ON1 | Extracellular Space | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism                         | LXR/RXR Activation, FXR/RXR Activation              |

|          |   |  |   |     |                     |   |  |
|----------|---|--|---|-----|---------------------|---|--|
| APOE     | A | apolipoprotein E   | 2 | ON1 | Extracellular Space | Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism | LXR/RXR Activation, FXR/RXR Activation |
| ABCG5    | A | ATP-binding cassette, sub-family G (WHITE), member 5                       | 5 |     | Plasma Membrane     | Lipid Metabolism, Molecular Transport, Small Molecule Biochemistry            | LXR/RXR Activation, FXR/RXR Activation |
| CYP17A1  | A | cytochrome P450, family 17, subfamily A, polypeptide 1                     | 1 | ON1 | Cytoplasm           |   |  |
| HDAC9    | A | histone deacetylase 9  | 1 | ON1 | Nucleus             |   |  |
| LIPA     | A | lipase A, lysosomal acid, cholesterol esterase                             | 1 | ON1 | Cytoplasm           |   |  |
| LPA      | A | lipoprotein, Lp(a)   | 1 | ON1 | Extracellular Space |   |  |
| PCSK9    | A | proprotein convertase subtilisin/kexin type 9                              | 1 | ON1 | Extracellular Space |   |  |
| PEMT     | A | phosphatidylethanolamine N-methyltransferase                               | 1 | ON1 | Cytoplasm           |   |  |
| PPAP2B   | A | phosphatidic acid phosphatase type 2B                                      | 1 | ON1 | Plasma Membrane     |   |  |
| SORT1    | A | sortilin 1   | 1 | ON1 | Cytoplasm           |   |  |
| TCF21    | A | transcription factor 21  | 1 | ON1 | Nucleus             |   |  |
| ZFP64    | A | zinc finger protein 64 homolog (mouse)                                     | 1 | ON1 | Nucleus             |   |  |
| COL4A1   | A | collagen, type IV, alpha 1   | 2 | ON1 | Extracellular Space |   |  |
| COL4A2   | A | collagen, type IV, alpha 2   | 2 | ON1 | Extracellular Space |   |  |
| EDNRA    | A | endothelin receptor type A   | 2 | ON1 | Plasma Membrane     |   |  |
| FLT1     | A | fms-related tyrosine kinase 1 (vascular endothelial growth factor/vascular | 2 | ON1 | Plasma Membrane     |   |  |
| SH2B3    | A | SH2B adaptor protein 3   | 2 | ON1 | Cytoplasm           |   |  |
| TRIB1    | A | tribbles homolog 1 (Drosophila)  | 2 | ON1 | Cytoplasm           |   |  |
| CDKN2B   | A | cyclin-dependent kinase inhibitor 2B (p15, inhibits CDK4)                  | 6 | ON1 | Nucleus             |   |  |
| MIA3     | A | melanoma inhibitory activity family, member 3                              | 6 | ON1 | Cytoplasm           |   |  |
| VAMP8    | A | vesicle-associated membrane protein 8 (endobrevin)                         | 6 | ON1 | Plasma Membrane     |   |  |
| ZC3HC1   | A | zinc finger, C3HC-type containing 1  | 6 | ON1 | Nucleus             |   |  |
| PHACTR1  | A | phosphatase and actin regulator 1  | 8 | ON1 | Cytoplasm           |   |  |
| HIP1     | B | huntingtin interacting protein 1   | 1 | ON1 | Cytoplasm           |   |  |
| ATG16L1  | B | ATG16 autophagy related 16-like 1 (S. cerevisiae)                          | 1 | ON1 | Cytoplasm           |   |  |
| AXL      | B | AXL receptor tyrosine kinase   | 1 | ON1 | Plasma Membrane     |   |  |
| CYP1A2   | B | cytochrome P450, family 1, subfamily A, polypeptide 2                      | 1 | ON1 | Cytoplasm           |   |  |
| GTF2B    | B | general transcription factor IIB   | 1 | ON1 | Nucleus             |   |  |
| HDAC5    | B | histone deacetylase 5  | 1 | ON1 | Nucleus             |   |  |
| IFIT3    | B | interferon-induced protein with tetratricopeptide repeats 3                | 1 | ON1 | Cytoplasm           |   |  |
| INSC     | B | inscuteable homolog (Drosophila)   | 1 | ON1 | unknown             |   |  |
| LIPG     | B | lipase, endothelial  | 1 | ON1 | Extracellular Space |   |  |
| MAD1L1   | B | MAD1 mitotic arrest deficient-like 1 (yeast)                               | 1 | ON1 | Nucleus             |   |  |
| NFE2L3   | B | nuclear factor (erythroid-derived 2)-like 3                                | 1 | ON1 | Nucleus             |   |  |
| OBFC1    | B | oligonucleotide/oligosaccharide-binding fold containing 1                  | 1 | ON1 | Nucleus             |   |  |
| PACSLIN1 | B | protein kinase C and casein kinase substrate in neurons 1                  | 1 | ON1 | Cytoplasm           |   |  |
| PDE3A    | B | phosphodiesterase 3A, cGMP-inhibited                                       | 1 | ON1 | Cytoplasm           |   |  |
| PRDM16   | B | PR domain containing 16  | 1 | ON1 | Nucleus             |   |  |
| PSAP     | B | prosaposin   | 1 | ON1 | Extracellular Space |   |  |
| SKI      | B | v-ski sarcoma viral oncogene homolog (avian)                               | 1 | ON1 | Nucleus             |   |  |
| SLC22A2  | B | solute carrier family 22 (organic cation transporter), member 2            | 1 | ON1 | Plasma Membrane     |   |  |
| SLC22A5  | B | solute carrier family 22 (organic cation/carnitine transporter), member 5  | 1 | ON1 | Plasma Membrane     |   |  |
| STRN3    | B | striatin, calmodulin binding protein 3                                     | 1 | ON1 | Nucleus             |   |  |
| SWAP70   | B | SWAP switching B-cell complex 70kDa subunit                                | 1 | ON1 | Cytoplasm           |   |  |
| TRAFD1   | B | TRAF-type zinc finger domain containing 1                                  | 1 | ON1 | unknown             |   |  |
| BRAP     | B | BRCA1 associated protein   | 2 | ON1 | Cytoplasm           |   |  |
| AKAP13   | B | A kinase (PRKA) anchor protein 13  | 2 | ON1 | Cytoplasm           |   |  |
| ANXA11   | B | annexin A11  | 2 | ON1 | Nucleus             |   |  |
| ATF3     | B | activating transcription factor 3  | 2 | ON1 | Nucleus             |   |  |

|                 |    |  |     |     |                     |                                   |
|-----------------|----|--|-----|-----|---------------------|-----------------------------------|
| ATP2B1          | B  | ATPase, Ca++ transporting, plasma membrane 1                                 | 2   | ON1 | Plasma Membrane     |                                   |
| BMP1            | B  | bone morphogenetic protein 1   | 2   | ON1 | Extracellular Space |                                   |
| DNM2            | B  | dynamitin 2  | 2   | ON1 | Plasma Membrane     |                                   |
| FER             | B  | fer (fps/fes related) tyrosine kinase  | 2   | ON1 | Cytoplasm           | Leukocyte Extravasation Signaling |
| IGF2BP1         | B  | insulin-like growth factor 2 mRNA binding protein 1                          | 2   | ON1 | Cytoplasm           |                                   |
| ITK             | B  | IL2-inducible T-cell kinase  | 2   | ON1 | Cytoplasm           | Leukocyte Extravasation Signaling |
| MCL1            | B  | myeloid cell leukemia sequence 1 (BCL2-related)                              | 2   | ON1 | Cytoplasm           |                                   |
| NGF             | B  | nerve growth factor (beta polypeptide)                                       | 2   | ON1 | Extracellular Space |                                   |
| PDGFRA          | B  | platelet-derived growth factor receptor, alpha polypeptide                   | 2   | ON1 | Plasma Membrane     |                                   |
| PECAM1          | B  | platelet/endothelial cell adhesion molecule 1                                | 2   | ON1 | Plasma Membrane     | Leukocyte Extravasation Signaling |
| PLCB1           | B  | phospholipase C, beta 1 (phosphoinositide-specific)                          | 2   | ON1 | Cytoplasm           |                                   |
| PLCG2           | B  | phospholipase C, gamma 2 (phosphatidylinositol-specific)                     | 2   | ON1 | Cytoplasm           |                                   |
| PROCR           | B  | protein C receptor, endothelial  | 2   | ON1 | Plasma Membrane     |                                   |
| RND3            | B  | Rho family GTPase 3  | 2   | ON1 | Cytoplasm           |                                   |
| SERPINH1        | B  | serpin peptidase inhibitor, clade H (heat shock protein 47), member 1, (cc 2 | 2   | ON1 | Extracellular Space |                                   |
| TNS1            | B  | tensin 1   | 2   | ON1 | Plasma Membrane     |                                   |
| ABI2            | B  | abl-interactor 2   | 6   | ON1 | Cytoplasm           |                                   |
| BSN             | B  | bassoon (presynaptic cytomatrix protein)                                     | 6   | ON1 | Plasma Membrane     |                                   |
| C21orf7         | B  | chromosome 21 open reading frame 7   | 6   | ON1 | unknown             |                                   |
| CELSR2          | B  | cadherin, EGF LAG seven-pass G-type receptor 2 (flamingo homolog, Drr6       | 6   | ON1 | Plasma Membrane     |                                   |
| CTSK            | B  | cathepsin K  | 6   | ON1 | Cytoplasm           |                                   |
| KALRN           | B  | kalirin, RhoGEF kinase   | 6   | ON1 | Cytoplasm           |                                   |
| KIF14           | B  | kinesin family member 14   | 6   | ON1 | Cytoplasm           |                                   |
| NR2C2           | B  | nuclear receptor subfamily 2, group C, member 2                              | 6   | ON1 | Nucleus             |                                   |
| PHB             | B  | prohibitin   | 6   | ON1 | Nucleus             |                                   |
| PRIM2           | B  | primase, DNA, polypeptide 2 (58kDa)  | 6   | ON1 | Nucleus             |                                   |
| RGS18           | B  | regulator of G-protein signaling 18  | 6   | ON1 | Cytoplasm           |                                   |
| SETDB1          | B  | SET domain, bifurcated 1   | 6   | ON1 | Nucleus             |                                   |
| SIPA1           | B  | signal-induced proliferation-associated 1                                    | 6   | ON1 | Cytoplasm           | Leukocyte Extravasation Signaling |
| USP24           | B  | ubiquitin specific peptidase 24  | 6   | ON1 | unknown             |                                   |
| ARVCF           | B  | armadillo repeat gene deleted in velocardiofacial syndrome                   | 6   | ON1 | Plasma Membrane     |                                   |
| KDM3A           | B  | lysine (K)-specific demethylase 3A   | 6   | ON1 | Nucleus             |                                   |
| ZNF589          | B  | zinc finger protein 589  | 8   | ON1 | unknown             |                                   |
| DNAH11          | B  | dynein, axonemal, heavy chain 11   | 8   | ON1 | Cytoplasm           |                                   |
| DYNC2L1         | B  | dynein, cytoplasmic 2, light intermediate chain 1                            | 8   | ON1 | Cytoplasm           |                                   |
| ERG             | B  | v-ets erythroblastosis virus E26 oncogene homolog (avian)                    | 8   | ON1 | Nucleus             |                                   |
| MAP4            | B  | microtubule-associated protein 4   | 8   | ON1 | Cytoplasm           |                                   |
| MAP9            | B  | microtubule-associated protein 9   | 8   | ON1 | unknown             |                                   |
| MARK4           | B  | MAP/microtubule affinity-regulating kinase 4                                 | 8   | ON1 | Cytoplasm           |                                   |
| MMP24           | B  | matrix metalloproteinase 24 (membrane-inserted)                              | 8   | ON1 | Extracellular Space |                                   |
| NCOA6           | B  | nuclear receptor coactivator 6   | 8   | ON1 | Nucleus             |                                   |
| PHACTR3         | B  | phosphatase and actin regulator 3  | 8   | ON1 | Nucleus             |                                   |
| RPH3A           | B  | rabphilin 3A homolog (mouse)   | 8   | ON1 | Plasma Membrane     |                                   |
| SMG6            | B  | smg-6 homolog, nonsense mediated mRNA decay factor (C. elegans)              | 8   | ON1 | Nucleus             |                                   |
| TSPAN2          | B  | tetraspanin 2  | 8   | ON1 | Extracellular Space |                                   |
| TERT            | B  | telomerase reverse transcriptase   | 1,8 | ON1 | Nucleus             |                                   |
| 14-3-3          | -- | --   | 1   | ON1 | Cytoplasm           |                                   |
| 26s Proteasome  | -- | --   | 1   | ON1 | Cytoplasm           |                                   |
| caspase         | -- | --   | 1   | ON1 | Cytoplasm           |                                   |
| Caspase 3/7     | -- | --   | 1   | ON1 | Cytoplasm           |                                   |
| creatine kinase | -- | --   | 1   | ON1 | unknown             |                                   |
| Cytochrome c    | -- | --   | 1   | ON1 | Cytoplasm           |                                   |
| GOT             | -- | --   | 1   | ON1 | unknown             |                                   |
| Hdac            | -- | --   | 1   | ON1 | Nucleus             |                                   |
| HDL-cholesterol | -- | --   | 1   | ON1 | unknown             |                                   |
| Histone h4      | -- | --   | 1   | ON1 | Nucleus             |                                   |
| Hsp70           | -- | --   | 1   | ON1 | Cytoplasm           |                                   |

|                       |   |   |     |                     |                     |
|-----------------------|---|---|-----|---------------------|---------------------|
| IFN Beta              | --  | 1 | ON1 | Nucleus             | Chemokine Signaling |
| Ige                   | --  | 1 | ON1 | Extracellular Space |                     |
| IL12                  | --  | 1 | ON1 | Extracellular Space |                     |
| Interferon alpha      | --  | 1 | ON1 | Extracellular Space |                     |
| LDL-cholesterol       | --  | 1 | ON1 | unknown             |                     |
| PP2A                  | --  | 1 | ON1 | Cytoplasm           |                     |
| RNA polymerase II     | --  | 1 | ON1 | Nucleus             |                     |
| Smad                  | --  | 1 | ON1 | Nucleus             |                     |
| Smad1/5/8             | --  | 1 | ON1 | Cytoplasm           |                     |
| VLDL-cholesterol      | --  | 1 | ON1 | unknown             |                     |
| Alp                   | --  | 2 | ON1 | unknown             |                     |
| Ap1                   | --  | 2 | ON1 | Nucleus             |                     |
| BCR (complex)         | --  | 2 | ON1 | Plasma Membrane     |                     |
| CD3                   | --  | 2 | ON1 | Plasma Membrane     |                     |
| Collagen type I       | --  | 2 | ON1 | unknown             |                     |
| Cyclin A              | --  | 2 | ON1 | Nucleus             |                     |
| Fcer1                 | --  | 2 | ON1 | Plasma Membrane     |                     |
| Focal adhesion kinase | --  | 2 | ON1 | Cytoplasm           |                     |
| G-protein beta        | --  | 2 | ON1 | Cytoplasm           |                     |
| Gm-csf                | --  | 2 | ON1 | unknown             |                     |
| Growth hormone        | --  | 2 | ON1 | Extracellular Space |                     |
| Igm                   | --  | 2 | ON1 | Extracellular Space |                     |
| Immunoglobulin        | --  | 2 | ON1 | unknown             |                     |
| Mapk                  | --  | 2 | ON1 | Cytoplasm           |                     |
| Mek                   | --  | 2 | ON1 | Cytoplasm           |                     |
| p85 (pik3r)           | --  | 2 | ON1 | Cytoplasm           |                     |
| PDGF BB               | --  | 2 | ON1 | Extracellular Space |                     |
| Pka                   | --  | 2 | ON1 | Cytoplasm           |                     |
| Ras homolog           | --  | 2 | ON1 | Cytoplasm           |                     |
| STAT5a/b              | --  | 2 | ON1 | Cytoplasm           |                     |
| TCR                   | --  | 2 | ON1 | Plasma Membrane     |                     |
| Tgf beta              | --  | 2 | ON1 | Extracellular Space |                     |
| Vegf                  | --  | 2 | ON1 | Cytoplasm           |                     |
| ATP4A                 | ATPase, H+/K+ exchanging, alpha polypeptide                             | 6 | ON1 | Plasma Membrane     |                     |
| BDKRB1                | bradykinin receptor B1  | 6 | ON1 | Plasma Membrane     |                     |
| CALML3                | calmodulin-like 3   | 6 | ON1 | Cytoplasm           |                     |
| CCNB1                 | cyclin B1   | 6 | ON1 | Cytoplasm           |                     |
| CRIP2                 | cysteine-rich protein 2   | 6 | ON1 | Plasma Membrane     |                     |
| CTGF                  | connective tissue growth factor   | 6 | ON1 | Extracellular Space |                     |
| CYP4B1                | cytochrome P450, family 4, subfamily B, polypeptide 1                   | 6 | ON1 | Cytoplasm           |                     |
| E2F1                  | E2F transcription factor 1  | 6 | ON1 | Nucleus             |                     |
| GPR183                | G protein-coupled receptor 183  | 6 | ON1 | Plasma Membrane     |                     |
| FLNB                  | filamin B, beta   | 6 | ON1 | Cytoplasm           |                     |
| HIST1H2BB             | histone cluster 1, H2bb   | 6 | ON1 | Nucleus             |                     |
| HAS3                  | hyaluronan synthase 3   | 6 | ON1 | Plasma Membrane     |                     |
| IL13                  | interleukin 13  | 6 | ON1 | Extracellular Space |                     |
| LTC4S                 | leukotriene C4 synthase   | 6 | ON1 | Cytoplasm           |                     |
| SMAD3                 | SMAD family member 3  | 6 | ON1 | Nucleus             |                     |
| MAPT                  | microtubule-associated protein tau                                      | 6 | ON1 | Cytoplasm           |                     |
| MDH1                  | malate dehydrogenase 1, NAD (soluble)                                   | 6 | ON1 | Cytoplasm           |                     |
| MN1                   | meningioma (disrupted in balanced translocation) 1                      | 6 | ON1 | Nucleus             |                     |
| NDUFA5                | NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 5, 13kDa            | 6 | ON1 | Cytoplasm           | FXR/RXR Activation  |
| PPARG                 | peroxisome proliferator-activated receptor gamma                        | 6 | ON1 | Nucleus             |                     |
| SMARCA4               | SWI/SNF related, matrix associated, actin dependent regulator of chroma | 6 | ON1 | Nucleus             |                     |
| TNNT3                 | troponin T type 3 (skeletal, fast)                                      | 6 | ON1 | Cytoplasm           |                     |
| TP53BP2               | tumor protein p53 binding protein, 2                                    | 6 | ON1 | Nucleus             |                     |
| PTP4A2                | protein tyrosine phosphatase type IVA, member 2                         | 6 | ON1 | Plasma Membrane     |                     |

|                     |   |   |     |                     |
|---------------------|---|---|-----|---------------------|
| KDM5C               | lysine (K)-specific demethylase 5C                                | 6 | ON1 | Nucleus             |
| SDPR                | serum deprivation response  | 6 | ON1 | Plasma Membrane     |
| ESPL1               | extra spindle pole bodies homolog 1 (S. cerevisiae)               | 6 | ON1 | Nucleus             |
| CYSLTR1             | cysteinyl leukotriene receptor 1                                  | 6 | ON1 | Plasma Membrane     |
| BAMBI               | BMP and activin membrane-bound inhibitor homolog (Xenopus laevis) | 6 | ON1 | Plasma Membrane     |
| PCLO                | piccolo (presynaptic cytomatrix protein)                          | 6 | ON1 | Cytoplasm           |
| TREM2               | triggering receptor expressed on myeloid cells 2                  | 6 | ON1 | Plasma Membrane     |
| ASPN                | asporin   | 6 | ON1 | Extracellular Space |
| CHD7                | chromodomain helicase DNA binding protein 7                       | 6 | ON1 | Nucleus             |
| ATF7IP              | activating transcription factor 7 interacting protein             | 6 | ON1 | Nucleus             |
| SEPT11              | septin 11   | 6 | ON1 | Nucleus             |
| ERBB2IP             | erb2 interacting protein  | 6 | ON1 | Extracellular Space |
| GORASP1             | golgi reassembly stacking protein 1, 65kDa                        | 6 | ON1 | Cytoplasm           |
| mir-31              | microRNA 31   | 6 | ON1 | Cytoplasm           |
| mir-103             | microRNA 103a-1   | 6 | ON1 | Cytoplasm           |
| mir-24              | microRNA 24-1   | 6 | ON1 | Cytoplasm           |
| HIST1H2AB/HIST1H2AE | histone cluster 1, H2ae   | 6 | ON1 | Nucleus             |
| Ltbp                | --  | 6 | ON1 | unknown             |
| miR-103-3p          | --  | 6 | ON1 | Cytoplasm           |
| miR-24-3p           | --  | 6 | ON1 | Cytoplasm           |
| ASCL2               | achaete-scute complex homolog 2 (Drosophila)                      | 8 | ON1 | Nucleus             |
| BMP3                | bone morphogenetic protein 3                                      | 8 | ON1 | Extracellular Space |
| CDH8                | cadherin 8, type 2  | 8 | ON1 | Plasma Membrane     |
| DBH                 | dopamine beta-hydroxylase (dopamine beta-monooxygenase)           | 8 | ON1 | Cytoplasm           |
| DIAPH2              | diaphanous homolog 2 (Drosophila)                                 | 8 | ON1 | Cytoplasm           |
| DOCK1               | dedicator of cytokinesis 1  | 8 | ON1 | Cytoplasm           |
| EPS8                | epidermal growth factor receptor pathway substrate 8              | 8 | ON1 | Plasma Membrane     |
| ETV5                | ets variant 5   | 8 | ON1 | Nucleus             |
| FGFR3               | fibroblast growth factor receptor 3                               | 8 | ON1 | Plasma Membrane     |
| FLNC                | filamin C, gamma  | 8 | ON1 | Cytoplasm           |
| FNTB                | farnesyltransferase, CAAX box, beta                               | 8 | ON1 | Cytoplasm           |
| FRK                 | fyn-related kinase  | 8 | ON1 | Nucleus             |
| GLP1R               | glucagon-like peptide 1 receptor                                  | 8 | ON1 | Plasma Membrane     |
| RAPGEF1             | Rap guanine nucleotide exchange factor (GEF) 1                    | 8 | ON1 | Cytoplasm           |
| MSN                 | moesin  | 8 | ON1 | Plasma Membrane     |
| MYO5A               | myosin VA (heavy chain 12, myosin)                                | 8 | ON1 | Cytoplasm           |
| PKNOX1              | PBX/knotted 1 homeobox 1  | 8 | ON1 | Nucleus             |
| RAB3A               | RAB3A, member RAS oncogene family                                 | 8 | ON1 | Cytoplasm           |
| RALA                | v-ral simian leukemia viral oncogene homolog A (ras related)      | 8 | ON1 | Cytoplasm           |
| RBBP5               | retinoblastoma binding protein 5                                  | 8 | ON1 | Nucleus             |
| RFX3                | regulatory factor X, 3 (influences HLA class II expression)       | 8 | ON1 | Nucleus             |
| CLIP1               | CAP-GLY domain containing linker protein 1                        | 8 | ON1 | Cytoplasm           |
| SLCO1A2             | solute carrier organic anion transporter family, member 1A2       | 8 | ON1 | Plasma Membrane     |
|                     |   |   |     |                     |
| SRC                 | v-src sarcoma (Schmidt-Ruppin A-2) viral oncogene homolog (avian) | 8 |     | Cytoplasm           |
| STX1A               | syntaxin 1A (brain)   | 8 | ON1 | Cytoplasm           |
| VAMP1               | vesicle-associated membrane protein 1 (synaptobrevin 1)           | 8 | ON1 | Plasma Membrane     |
| TPM3                | tropomyosin 3   | 8 | ON1 | Cytoplasm           |
| KDM6A               | lysine (K)-specific demethylase 6A                                | 8 | ON1 | Nucleus             |
| WIPF1               | WAS/WASL interacting protein family, member 1                     | 8 | ON1 | Cytoplasm           |
| ANXA9               | annexin A9  | 8 | ON1 | Plasma Membrane     |
| CARTPT              | CART prepropeptide  | 8 | ON1 | Extracellular Space |
| SH3PXD2A            | SH3 and PX domains 2A   | 8 | ON1 | Cytoplasm           |
| DSTN                | destrin (actin depolymerizing factor)                             | 8 | ON1 | Cytoplasm           |
| PAXIP1              | PAX interacting (with transcription-activation domain) protein 1  | 8 | ON1 | Nucleus             |
| RAB8B               | RAB8B, member RAS oncogene family                                 | 8 | ON1 | Cytoplasm           |

Leukocyte Extravasation  
Signaling, Chemokine  
Signaling



|                   |   |   |     |     |                     |
|-------------------|---|---|-----|-----|---------------------|
| SOX6              |   | SRY (sex determining region Y)-box 6  | 8   | ON1 | Nucleus             |
| APOM              |   | apolipoprotein M  | 8   | ON1 | Plasma Membrane     |
| KDM2B             |   | lysine (K)-specific demethylase 2B  | 8   | ON1 | Nucleus             |
| SYT9              |   | synaptotagmin IX  | 8   | ON1 | Plasma Membrane     |
| PAQR7             |   | progesterone and adipoQ receptor family member VII                            | 8   | ON1 | unknown             |
| FBXO45            |   | F-box protein 45  | 8   | ON1 | Plasma Membrane     |
| TUBB              |   | tubulin, beta class I   | 8   | ON1 | Cytoplasm           |
| GAS2L3            |   | growth arrest-specific 2 like 3   | 8   | ON1 | unknown             |
| SMN1/SMN2         |   | survival of motor neuron 1, telomeric   | 8   | ON1 | Nucleus             |
| Actin             |   | --  | 8   | ON1 | Cytoplasm           |
| Alpha tubulin     |   | --  | 8   | ON1 | Cytoplasm           |
| Creb              |   | --  | 8   | ON1 | Nucleus             |
| estrogen receptor |   | --  | 8   | ON1 | unknown             |
| Myosin            |   | --  | 8   | ON1 | Cytoplasm           |
| Pak               |   | --  | 8   | ON1 | Cytoplasm           |
| Proinsulin        |   | --  | 8   | ON1 | unknown             |
| Histone h3        |   | --  | 1,6 | ON1 | Nucleus             |
| ERK               |   | --  | 2,6 | ON1 | unknown             |
| ANKS1A            | A | ankyrin repeat and sterile alpha motif domain containing 1A                   | 4   | ON2 | Cytoplasm           |
| GUCY1A3           | A | guanylate cyclase 1, soluble, alpha 3   | 4   | ON2 | Cytoplasm           |
| GUCY1B3           | A | guanylate cyclase 1, soluble, beta 3  | 4   | ON2 | Cytoplasm           |
| ADAMTS7           | A | ADAM metalloproteinase with thrombospondin type 1 motif, 7                    | 7   | ON2 | Extracellular Space |
| CNNM2             | A | cyclin M2   | 7   | ON2 | unknown             |
| FES               | A | feline sarcoma oncogene   | 7   | ON2 | Cytoplasm           |
| MRAS              | A | muscle RAS oncogene homolog   | 7   | ON2 | Plasma Membrane     |
| ZEB2              | A | zinc finger E-box binding homeobox 2  | 7   | ON2 | Nucleus             |
| ARHGAP12          | B | Rho GTPase activating protein 12  | 4   | ON2 | Cytoplasm           |
| ARHGAP26          | B | Rho GTPase activating protein 26  | 4   | ON2 | Cytoplasm           |
| C12orf51          | B | chromosome 12 open reading frame 51   | 4   | ON2 | unknown             |
| CCDC97            | B | coiled-coil domain containing 97  | 4   | ON2 | unknown             |
| COL4A4            | B | collagen, type IV, alpha 4  | 4   | ON2 | Extracellular Space |
| CUX2              | B | cut-like homeobox 2   | 4   | ON2 | Nucleus             |
| ILF3              | B | interleukin enhancer binding factor 3, 90kDa                                  | 4   | ON2 | Nucleus             |
| MCM6              | B | minichromosome maintenance complex component 6                                | 4   | ON2 | Nucleus             |
| NME7              | B | non-metastatic cells 7, protein expressed in (nucleoside-diphosphate kinase)  | 4   | ON2 | Cytoplasm           |
| NMU               | B | neuromedin U  | 4   | ON2 | Extracellular Space |
| OASL              | B | 2'-5'-oligoadenylate synthetase-like  | 4   | ON2 | Cytoplasm           |
| OVOL1             | B | ovo-like 1 (Drosophila)   | 4   | ON2 | Nucleus             |
| PCCB              | B | propionyl CoA carboxylase, beta polypeptide                                   | 4   | ON2 | Cytoplasm           |
| PKN2              | B | protein kinase N2   | 4   | ON2 | Cytoplasm           |
| PSRC1             | B | proline/serine-rich coiled-coil 1   | 4   | ON2 | Cytoplasm           |
| RHPN2             | B | rhophilin, Rho GTPase binding protein 2                                       | 4   | ON2 | Cytoplasm           |
| RPL6              | B | ribosomal protein L6  | 4   | ON2 | Cytoplasm           |
| SHROOM3           | B | shroom family member 3  | 4   | ON2 | Cytoplasm           |
| TOM1L2            | B | target of myb1-like 2 (chicken)   | 4   | ON2 | unknown             |
| UBTF              | B | upstream binding transcription factor, RNA polymerase I                       | 4   | ON2 | Nucleus             |
| BMPR1A            | B | bone morphogenetic protein receptor, type IA                                  | 7   | ON2 | Plasma Membrane     |
| CAMK1D            | B | calcium/calmodulin-dependent protein kinase ID                                | 7   | ON2 | Cytoplasm           |
| GSDMC             | B | gasdermin C   | 7   | ON2 | Cytoplasm           |
| HS2ST1            | B | heparan sulfate 2-O-sulfotransferase 1  | 7   | ON2 | Cytoplasm           |
| LMOD1             | B | leiomodin 1 (smooth muscle)   | 7   | ON2 | Cytoplasm           |
| MAPKAPK5          | B | mitogen-activated protein kinase-activated protein kinase 5                   | 7   | ON2 | Cytoplasm           |
| NRIP1             | B | nuclear receptor interacting protein 1  | 7   | ON2 | Nucleus             |
| NRP1              | B | neuropilin 1  | 7   | ON2 | Plasma Membrane     |
| PLXNA4            | B | plexin A4   | 7   | ON2 | Plasma Membrane     |
| PODXL             | B | podocalyxin-like  | 7   | ON2 | Plasma Membrane     |
| SLC22A4           | B | solute carrier family 22 (organic cation/ergothioneine transporter), member 7 | 7   | ON2 | Plasma Membrane     |

|          |   |  |   |     |                     |  |
|----------|---|--|---|-----|---------------------|--|
| SLC44A1  | B | solute carrier family 44, member 1   | 7 | ON2 | Plasma Membrane     |  |
| STAG1    | B | stromal antigen 1  | 7 | ON2 | Nucleus             |  |
| SLC2A12  | B | solute carrier family 2 (facilitated glucose transporter), member 12         | 7 | ON2 | Plasma Membrane     |  |
| TMEM22   | B | solute carrier family 35, member G2  | 7 | ON2 | Cytoplasm           |  |
|          |   |  |   | ON2 |                     | Leukocyte Extravasation<br>Signaling, Chemokine<br>Signaling |
| RHOA     |   | ras homolog family member A  | 4 |     | Cytoplasm           |  |
| BAI1     |   | brain-specific angiogenesis inhibitor 1                                      | 4 | ON2 | Plasma Membrane     |  |
| CHD3     |   | chromodomain helicase DNA binding protein 3                                  | 4 | ON2 | Nucleus             |  |
| CHUK     |   | conserved helix-loop-helix ubiquitous kinase                                 | 4 | ON2 | Cytoplasm           |  |
| CLTC     |   | clathrin, heavy chain (Hc)   | 4 | ON2 | Plasma Membrane     |  |
| CNN2     |   | calponin 2   | 4 | ON2 | Cytoplasm           |  |
| CLDN7    |   | claudin 7  | 4 | ON2 | Plasma Membrane     |  |
| CTNNB1   |   | catenin (cadherin-associated protein), beta 1, 88kDa                         | 4 | ON2 | Nucleus             |  |
| DLG4     |   | discs, large homolog 4 (Drosophila)  | 4 | ON2 | Plasma Membrane     | Leukocyte Extravasation Signaling                            |
| GRIK5    |   | glutamate receptor, ionotropic, kainate 5                                    | 4 | ON2 | Plasma Membrane     |  |
| GUCY1A2  |   | guanylate cyclase 1, soluble, alpha 2  | 4 | ON2 | Cytoplasm           |  |
| HIST1H1A |   | histone cluster 1, H1a   | 4 | ON2 | Nucleus             |  |
| KCNJ4    |   | potassium inwardly-rectifying channel, subfamily J, member 4                 | 4 | ON2 | Plasma Membrane     |  |
| ABLIM1   |   | actin binding LIM protein 1  | 4 | ON2 | Cytoplasm           |  |
| MAN2B1   |   | mannosidase, alpha, class 2B, member 1                                       | 4 | ON2 | Cytoplasm           |  |
| MMP15    |   | matrix metalloproteinase 15 (membrane-inserted)                              | 4 | ON2 | Extracellular Space |  |
| MT1L     |   | metallothionein 1L (gene/pseudogene)   | 4 | ON2 | Cytoplasm           |  |
| NFKB2    |   | nuclear factor of kappa light polypeptide gene enhancer in B-cells 2 (p49)/4 | 4 | ON2 | Nucleus             |  |
| PCCA     |   | propionyl CoA carboxylase, alpha polypeptide                                 | 4 | ON2 | Cytoplasm           |  |
| PTPN14   |   | protein tyrosine phosphatase, non-receptor type 14                           | 4 | ON2 | Cytoplasm           |  |
| RAD23A   |   | RAD23 homolog A (S. cerevisiae)  | 4 | ON2 | Nucleus             |  |
| RGS13    |   | regulator of G-protein signaling 13  | 4 | ON2 | Nucleus             |  |
| RRM1     |   | ribonucleotide reductase M1  | 4 | ON2 | Nucleus             |  |
| TP53     |   | tumor protein p53  | 4 | ON2 | Nucleus             |  |
| YWHAG    |   | tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protei        | 4 | ON2 | Cytoplasm           |  |
| MMP23B   |   | matrix metalloproteinase 23B   | 4 | ON2 | Extracellular Space |  |
| CTSF     |   | cathepsin F  | 4 | ON2 | Cytoplasm           |  |
| PDLIM1   |   | PDZ and LIM domain 1   | 4 | ON2 | Cytoplasm           |  |
| ARHGEF2  |   | Rho/Rac guanine nucleotide exchange factor (GEF) 2                           | 4 | ON2 | Cytoplasm           |  |
| DLGAP1   |   | discs, large (Drosophila) homolog-associated protein 1                       | 4 | ON2 | Plasma Membrane     |  |
| PTPRU    |   | protein tyrosine phosphatase, receptor type, U                               | 4 | ON2 | Plasma Membrane     |  |
| FERMT2   |   | fermitin family member 2   | 4 | ON2 | Cytoplasm           |  |
| TMSB15A  |   | thymosin beta 15a  | 4 | ON2 | Cytoplasm           |  |
| ERC1     |   | ELKS/RAB6-interacting/CAST family member 1                                   | 4 | ON2 | Cytoplasm           |  |
| ZNF346   |   | zinc finger protein 346  | 4 | ON2 | Nucleus             |  |
| PLXNB2   |   | plexin B2  | 4 | ON2 | Plasma Membrane     |  |
| SH3BP4   |   | SH3-domain binding protein 4   | 4 | ON2 | unknown             |  |
| OSGIN1   |   | oxidative stress induced growth inhibitor 1                                  | 4 | ON2 | unknown             |  |
| CHCHD2   |   | coiled-coil-helix-coiled-coil-helix domain containing 2                      | 4 | ON2 | Cytoplasm           |  |
| TREM1    |   | triggering receptor expressed on myeloid cells 1                             | 4 | ON2 | Plasma Membrane     |  |
| MSL2     |   | male-specific lethal 2 homolog (Drosophila)                                  | 4 | ON2 | unknown             |  |
| LIN7C    |   | lin-7 homolog C (C. elegans)   | 4 | ON2 | Cytoplasm           |  |
| PCBP4    |   | poly(rC) binding protein 4   | 4 | ON2 | Nucleus             |  |
| AGAP1    |   | ArfGAP with GTPase domain, ankyrin repeat and PH domain 1                    | 4 | ON2 | Cytoplasm           |  |
| PQLC3    |   | PQ loop repeat containing 3  | 4 | ON2 | unknown             |  |
| ACOX1    |   | acyl-CoA oxidase 1, palmitoyl  | 7 | ON2 | Cytoplasm           |  |
| ADCY9    |   | adenylate cyclase 9  | 7 | ON2 | Plasma Membrane     |  |
| AR       |   | androgen receptor  | 7 | ON2 | Nucleus             |  |
| CREBL2   |   | cAMP responsive element binding protein-like 2                               | 7 | ON2 | Nucleus             |  |
| CST4     |   | cystatin S   | 7 | ON2 | Extracellular Space |  |
| DUSP3    |   | dual specificity phosphatase 3   | 7 | ON2 | Cytoplasm           |  |

|               |   |  |     |     |                     |
|---------------|---|--|-----|-----|---------------------|
| DUSP9         |   | dual specificity phosphatase 9   | 7   | ON2 | Nucleus             |
| FDX1          |   | ferredoxin 1   | 7   | ON2 | Cytoplasm           |
| GNB1          |   | guanine nucleotide binding protein (G protein), beta polypeptide 1         | 7   | ON2 | Plasma Membrane     |
| GNRH2         |   | gonadotropin-releasing hormone 2   | 7   | ON2 | Extracellular Space |
| MSMB          |   | microseminoprotein, beta-  | 7   | ON2 | Extracellular Space |
| PAX7          |   | paired box 7   | 7   | ON2 | Nucleus             |
| PRKCA         |   | protein kinase C, alpha  | 7   | ON2 | Cytoplasm           |
| MAPK6         |   | mitogen-activated protein kinase 6   | 7   | ON2 | Cytoplasm           |
| PRKX          |   | protein kinase, X-linked   | 7   | ON2 | Cytoplasm           |
| PTHLH         |   | parathyroid hormone-like hormone   | 7   | ON2 | Extracellular Space |
| RAB5C         |   | RAB5C, member RAS oncogene family  | 7   | ON2 | Cytoplasm           |
| SP1           |   | Sp1 transcription factor   | 7   | ON2 | Nucleus             |
| WT1           |   | Wilms tumor 1  | 7   | ON2 | Nucleus             |
| ARHGEF5       |   | Rho guanine nucleotide exchange factor (GEF) 5                             | 7   | ON2 | Cytoplasm           |
| DYRK3         |   | dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 3           | 7   | ON2 | Nucleus             |
| PPFIA4        |   | protein tyrosine phosphatase, receptor type, f polypeptide (PTPRF), interz | 7   | ON2 | Plasma Membrane     |
| P4HA2         |   | prolyl 4-hydroxylase, alpha polypeptide II                                 | 7   | ON2 | Cytoplasm           |
| DHRS3         |   | dehydrogenase/reductase (SDR family) member 3                              | 7   | ON2 | Cytoplasm           |
| RASAL2        |   | RAS protein activator like 2   | 7   | ON2 | unknown             |
| TP53I11       |   | tumor protein p53 inducible protein 11                                     | 7   | ON2 | unknown             |
| TLK1          |   | tousled-like kinase 1  | 7   | ON2 | Cytoplasm           |
| ATP9A         |   | ATPase, class II, type 9A  | 7   | ON2 | Plasma Membrane     |
| TOB1          |   | transducer of ERBB2, 1   | 7   | ON2 | Nucleus             |
| PLIN3         |   | perilipin 3  | 7   | ON2 | Cytoplasm           |
| ARL6IP5       |   | ADP-ribosylation-like factor 6 interacting protein 5                       | 7   | ON2 | Cytoplasm           |
| ARPC1A        |   | actin related protein 2/3 complex, subunit 1A, 41kDa                       | 7   | ON2 | Cytoplasm           |
| GNLY          |   | granulysin   | 7   | ON2 | Cytoplasm           |
| MAPRE2        |   | microtubule-associated protein, RP/EB family, member 2                     | 7   | ON2 | Cytoplasm           |
| PTPN21        |   | protein tyrosine phosphatase, non-receptor type 21                         | 7   | ON2 | Cytoplasm           |
| POP5          |   | processing of precursor 5, ribonuclease P/MRP subunit (S. cerevisiae)      | 7   | ON2 | Nucleus             |
| AMOTL2        |   | angiomotin like 2  | 7   | ON2 | Plasma Membrane     |
| CREBZF        |   | CREB/ATF bZIP transcription factor   | 7   | ON2 | Nucleus             |
| SEMA6D        |   | sema domain, transmembrane domain (TM), and cytoplasmic domain, (sc        | 7   | ON2 | Plasma Membrane     |
| LOC81691      |   | exonuclease NEF-sp   | 7   | ON2 | Nucleus             |
| ATPIF1        |   | ATPase inhibitory factor 1   | 7   | ON2 | Cytoplasm           |
| ABLM1         |   | --   | 7   | ON2 | Cytoplasm           |
| Alpha catenin |   | --   | 7   | ON2 | Cytoplasm           |
| FSH           |   | --   | 7   | ON2 | Plasma Membrane     |
| C1qtnf3       |   | C1q and tumor necrosis factor related protein 3                            | 7   | ON2 | Extracellular Space |
| Utp14b        |   | UTP14, U3 small nucleolar ribonucleoprotein, homolog B (yeast)             | 7   | ON2 | Nucleus             |
| RGS12         |   | regulator of G-protein signaling 12  | 4,7 | ON2 | Nucleus             |
| ALDH2         | A | aldehyde dehydrogenase 2 family (mitochondrial)                            | 3   |     | Cytoplasm           |
| NT5C2         | A | 5'-nucleotidase, cytosolic II  | 3   |     | Cytoplasm           |
| RASD1         | A | RAS, dexamethasone-induced 1   | 3   |     | Cytoplasm           |
| ACSS2         | B | acyl-CoA synthetase short-chain family member 2                            | 3   |     | Cytoplasm           |
| ATXN2         | B | ataxin 2   | 3   |     | Nucleus             |
| C3orf38       | B | chromosome 3 open reading frame 38   | 3   |     | unknown             |
| CHRNA4        | B | cholinergic receptor, nicotinic, beta 4 (neuronal)                         | 3   |     | Plasma Membrane     |
| CKM           | B | creatine kinase, muscle  | 3   |     | Cytoplasm           |
| CMIP          | B | c-Maf inducing protein   | 3   |     | Cytoplasm           |
| CPEB3         | B | cytoplasmic polyadenylation element binding protein 3                      | 3   |     | unknown             |
| DAB2IP        | B | DAB2 interacting protein   | 3   |     | Plasma Membrane     |
| GGCX          | B | gamma-glutamyl carboxylase   | 3   |     | Cytoplasm           |
| GOSR2         | B | golgi SNAP receptor complex member 2                                       | 3   |     | Cytoplasm           |
| LY86          | B | lymphocyte antigen 86  | 3   |     | Plasma Membrane     |
| MORF4L1       | B | mortality factor 4 like 1  | 3   |     | Nucleus             |
| PRCP          | B | prolylcarboxypeptidase (angiotensinase C)                                  | 3   |     | Cytoplasm           |

|           |   |  |   |                     |
|-----------|---|--|---|---------------------|
| RBMS1     | B | RNA binding motif, single stranded interacting protein 1                     | 3 | Nucleus             |
| SARS      | B | seryl-tRNA synthetase  | 3 | Cytoplasm           |
| SLC22A3   | B | solute carrier family 22 (extraneuronal monoamine transporter), member 3     | 3 | Plasma Membrane     |
| SURF4     | B | surfeit 4  | 3 | Cytoplasm           |
| SVEP1     | B | sushi, von Willebrand factor type A, EGF and pentraxin domain containing 3   | 3 | Cytoplasm           |
| TSPAN14   | B | tetraspanin 14   | 3 | unknown             |
| ATF4      |   | activating transcription factor 4 (tax-responsive enhancer element B67)      | 3 | Nucleus             |
| HK3       |   | hexokinase 3 (white cell)  | 3 | Cytoplasm           |
| IL4       |   | interleukin 4  | 3 | Extracellular Space |
| ITPR1     |   | inositol 1,4,5-trisphosphate receptor, type 1                                | 3 | Cytoplasm           |
| LEP       |   | leptin   | 3 | Extracellular Space |
| CD180     |   | CD180 molecule   | 3 | Plasma Membrane     |
| MFAP1     |   | microfibrillar-associated protein 1  | 3 | Extracellular Space |
| CYTb      |   | cytochrome b   | 3 | Cytoplasm           |
| PRKAB1    |   | protein kinase, AMP-activated, beta 1 non-catalytic subunit                  | 3 | Nucleus             |
| PSPH      |   | phosphoserine phosphatase  | 3 | Cytoplasm           |
| RB1       |   | retinoblastoma 1   | 3 | Nucleus             |
| SHMT2     |   | serine hydroxymethyltransferase 2 (mitochondrial)                            | 3 | Cytoplasm           |
| SRP9      |   | signal recognition particle 9kDa   | 3 | Cytoplasm           |
| SRPR      |   | signal recognition particle receptor (docking protein)                       | 3 | Cytoplasm           |
| TGFB2     |   | transforming growth factor, beta receptor II (70/80kDa)                      | 3 | Plasma Membrane     |
| TGM2      |   | transglutaminase 2 (C polypeptide, protein-glutamine-gamma-glutamyltra       | 3 | Cytoplasm           |
| XBP1      |   | X-box binding protein 1  | 3 | Nucleus             |
| ZFP36     |   | zinc finger protein 36, C3H type, homolog (mouse)                            | 3 | Nucleus             |
| SLC7A5    |   | solute carrier family 7 (amino acid transporter light chain, L system), mem  | 3 | Plasma Membrane     |
| CST7      |   | cystatin F (leukocystatin)   | 3 | Extracellular Space |
| LITAF     |   | lipopolysaccharide-induced TNF factor  | 3 | Nucleus             |
| SEC22B    |   | SEC22 vesicle trafficking protein homolog B (S. cerevisiae) (gene/pseudo     | 3 | Cytoplasm           |
| SERTAD2   |   | SERTA domain containing 2  | 3 | Cytoplasm           |
| MPHOSPH9  |   | M-phase phosphoprotein 9   | 3 | Cytoplasm           |
| BET1      |   | blocked early in transport 1 homolog (S. cerevisiae)                         | 3 | Cytoplasm           |
| DLEU1     |   | deleted in lymphocytic leukemia 1 (non-protein coding)                       | 3 | unknown             |
| MTHFD2    |   | methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 2, methen          | 3 | Cytoplasm           |
| RBPMS     |   | RNA binding protein with multiple splicing                                   | 3 | unknown             |
| ZNF365    |   | zinc finger protein 365  | 3 | Cytoplasm           |
| CAMSAP2   |   | calmodulin regulated spectrin-associated protein family, member 2            | 3 | unknown             |
| SUZ12     |   | suppressor of zeste 12 homolog (Drosophila)                                  | 3 | Nucleus             |
| SDF2L1    |   | stromal cell-derived factor 2-like 1   | 3 | Cytoplasm           |
| GCA       |   | grancalcin, EF-hand calcium binding protein                                  | 3 | Cytoplasm           |
| PHGDH     |   | phosphoglycerate dehydrogenase   | 3 | Cytoplasm           |
| EML4      |   | echinoderm microtubule associated protein like 4                             | 3 | Cytoplasm           |
| LGALS     |   | lectin, galactoside-binding-like   | 3 | unknown             |
| RCN3      |   | reticulocalbin 3, EF-hand calcium binding domain                             | 3 | Cytoplasm           |
| LRRC8C    |   | leucine rich repeat containing 8 family, member C                            | 3 | Cytoplasm           |
| MRFAP1    |   | Morf4 family associated protein 1  | 3 | Nucleus             |
| SERPINA12 |   | serpin peptidase inhibitor, clade A (alpha-1 antiproteinase, antitrypsin), m | 3 | Cytoplasm           |
| LILRA5    |   | leukocyte immunoglobulin-like receptor, subfamily A (with TM domain), m      | 3 | Plasma Membrane     |
| MTHFD2L   |   | methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 2-like             | 3 | unknown             |
| AMPK      |   | --   | 3 | Cytoplasm           |
| GUCY      |   | --   | 3 | Cytoplasm           |
| Igg3      |   | --   | 3 | unknown             |
| MEF2      |   | --   | 3 | Nucleus             |
| Trbv13-1  |   | T cell receptor beta, variable 13-1  | 3 | unknown             |
| ABO       | A | ABO blood group (transferase A, alpha 1-3-N-acetylgalactosaminyltransfe      | 5 | Plasma Membrane     |
| WDR12     | A | WD repeat domain 12  | 5 | Cytoplasm           |
| ZNF259    | A | zinc finger protein 259  | 5 | Nucleus             |
| AGPAT4    | B | 1-acylglycerol-3-phosphate O-acyltransferase 4 (lysophosphatidic acid ac     | 5 | Cytoplasm           |

|          |   |  |   |                     |  |
|----------|---|--|---|---------------------|--|
| AS3MT    | B | arsenic (+3 oxidation state) methyltransferase             | 5 | Cytoplasm           |  |
| ASB13    | B | ankyrin repeat and SOCS box containing 13                  | 5 | unknown             |  |
| CFDP1    | B | craniofacial development protein 1                         | 5 | Extracellular Space |  |
| CYP46A1  | B | cytochrome P450, family 46, subfamily A, polypeptide 1     | 5 | Cytoplasm           |  |
| DCPS     | B | decapping enzyme, scavenger                                | 5 | Nucleus             |  |
| FUT9     | B | fucosyltransferase 9 (alpha (1,3) fucosyltransferase)      | 5 | Cytoplasm           |  |
| GIP      | B | gastric inhibitory polypeptide                             | 5 | Extracellular Space |  |
| HSD17B12 | B | hydroxysteroid (17-beta) dehydrogenase 12                  | 5 | Cytoplasm           |  |
| IKZF2    | B | IKAROS family zinc finger 2 (Helios)                       | 5 | Nucleus             |  |
| IP6K3    | B | inositol hexakisphosphate kinase 3                         | 5 | Cytoplasm           |  |
| KCNK5    | B | potassium channel, subfamily K, member 5                   | 5 | Plasma Membrane     |  |
| NDUFA12  | B | NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 12     | 5 | Cytoplasm           |  |
| NOP58    | B | NOP58 ribonucleoprotein homolog (yeast)                    | 5 | Nucleus             |  |
| OBP2B    | B | odorant binding protein 2B                                 | 5 | Extracellular Space |  |
| PARP12   | B | poly (ADP-ribose) polymerase family, member 12             | 5 | Nucleus             |  |
| PSMA5    | B | proteasome (prosome, macropain) subunit, alpha type, 5     | 5 | Cytoplasm           |  |
| USP53    | B | ubiquitin specific peptidase 53                            | 5 | unknown             |  |
| KIAA1324 | B | KIAA1324   | 5 | Plasma Membrane     |  |
| ACTN2    |   | actinin, alpha 2   | 5 | Nucleus             |  |
| ADRA2B   |   | adrenergic, alpha-2B-, receptor                            | 5 | Plasma Membrane     |  |
| CBFB     |   | core-binding factor, beta subunit                          | 5 | Nucleus             |  |
| CREB1    |   | cAMP responsive element binding protein 1                  | 5 | Nucleus             |  |
| CYP2C19  |   | cytochrome P450, family 2, subfamily C, polypeptide 19     | 5 | Cytoplasm           |  |
| COCH     |   | coagulation factor C homolog, cochlin (Limulus polyphemus) | 5 | Extracellular Space |  |
| EGFR     |   | epidermal growth factor receptor                           | 5 | Plasma Membrane     | Glioma Signaling   |
| GLS      |   | glutaminase  | 5 | Cytoplasm           |  |
| GP6R     |   | G protein-coupled estrogen receptor 1                      | 5 | Plasma Membrane     |  |
| MKNK2    |   | MAP kinase interacting serine/threonine kinase 2           | 5 | Cytoplasm           |  |
| GRM3     |   | glutamate receptor, metabotropic 3                         | 5 | Plasma Membrane     |  |
| HTT      |   | huntingtin   | 5 | Cytoplasm           |  |
| HLA-E    |   | major histocompatibility complex, class I, E               | 5 | Plasma Membrane     | Atherosclerosis Signaling,<br>Leukocyte Extravasation<br>Signaling |
| ICAM1    |   | intercellular adhesion molecule 1                          | 5 | Plasma Membrane     |  |
| PDX1     |   | pancreatic and duodenal homeobox 1                         | 5 | Nucleus             |  |
| KCNK2    |   | potassium channel, subfamily K, member 2                   | 5 | Plasma Membrane     |  |
| KNG1     |   | kininogen 1  | 5 | Extracellular Space |  |
| KRT16    |   | keratin 16   | 5 | Cytoplasm           |  |
| KRT31    |   | keratin 31   | 5 | Cytoplasm           |  |
| KRT34    |   | keratin 34   | 5 | Cytoplasm           |  |
| MAN1A1   |   | mannosidase, alpha, class 1A, member 1                     | 5 | Cytoplasm           |  |
| MEST     |   | mesoderm specific transcript homolog (mouse)               | 5 | Extracellular Space |  |
| MAPK1    |   | mitogen-activated protein kinase 1                         | 5 | Cytoplasm           |  |
| RORC     |   | RAR-related orphan receptor C                              | 5 | Nucleus             |  |
| PHLDA2   |   | pleckstrin homology-like domain, family A, member 2        | 5 | Cytoplasm           |  |
| SCG2     |   | secretogranin II   | 5 | Extracellular Space |  |
| DEGS1    |   | delta(4)-desaturase, sphingolipid 1                        | 5 | Plasma Membrane     |  |
| PDXK     |   | pyridoxal (pyridoxine, vitamin B6) kinase                  | 5 | Cytoplasm           |  |
| SERPINF7 |   | serpin peptidase inhibitor, clade B (ovalbumin), member 7  | 5 | Cytoplasm           |  |
| FADD     |   | Fas (TNFRSF6)-associated via death domain                  | 5 | Cytoplasm           |  |
| HAP1     |   | huntingtin-associated protein 1                            | 5 | Cytoplasm           |  |
| GPR83    |   | G protein-coupled receptor 83                              | 5 | Plasma Membrane     |  |
| DUSP14   |   | dual specificity phosphatase 14                            | 5 | unknown             |  |
| MAST3    |   | microtubule associated serine/threonine kinase 3           | 5 | unknown             |  |
| JMJD6    |   | jumonji domain containing 6                                | 5 | Plasma Membrane     |  |
| TIPARP   |   | TCDD-inducible poly(ADP-ribose) polymerase                 | 5 | Nucleus             |  |
| MNS1     |   | meiosis-specific nuclear structural 1                      | 5 | unknown             |  |

|                      |   |   |   |   |                     |
|----------------------|---|---|---|---|---------------------|
| CSRNP1               |   | cysteine-serine-rich nuclear protein 1                                  | 5 |   | Nucleus             |
| CYP3A43              |   | cytochrome P450, family 3, subfamily A, polypeptide 43                  | 5 |   | Cytoplasm           |
| AGXT2L1              |   | alanine-glyoxylate aminotransferase 2-like 1                            | 5 |   | unknown             |
| ELMOD2               |   | ELMO/CED-12 domain containing 2   | 5 |   | unknown             |
| mir-124              |   | microRNA 124-1  | 5 |   | Cytoplasm           |
| G protein beta gamma |   | --  | 5 |   | Cytoplasm           |
| IgG                  |   | --  | 5 |   | Extracellular Space |
| Gstp1                |   | glutathione S-transferase, pi 1   | 5 |   | Cytoplasm           |
| NQA1                 | B | nitric oxide associated 1   |   | 9 | Cytoplasm           |
| TXN2                 |   | thioredoxin 2   |   | 9 | Cytoplasm           |
| KCNE2                | A | potassium voltage-gated channel, Isk-related family, member 2           |   |   | Plasma Membrane     |
| RAI1                 | A | retinoic acid induced 1   |   |   | Cytoplasm           |
| ACAD10               | B | acyl-CoA dehydrogenase family, member 10                                |   |   | Cytoplasm           |
| AMT                  | B | aminomethyltransferase  |   |   | Cytoplasm           |
| ATPAF2               | B | ATP synthase mitochondrial F1 complex assembly factor 2                 |   |   | Cytoplasm           |
| B4GALNT2             | B | beta-1,4-N-acetyl-galactosaminyl transferase 2                          |   |   | Cytoplasm           |
| BNC2                 | B | basonuclin 2  |   |   | Nucleus             |
| BUD13                | B | BUD13 homolog (S. cerevisiae)   |   |   | Nucleus             |
| CA10                 | B | carbonic anhydrase X  |   |   | unknown             |
| CAPN9                | B | calpain 9   |   |   | Cytoplasm           |
| FGGY                 | B | FGGY carbohydrate kinase domain containing                              |   |   | unknown             |
| GNPDA2               | B | glucosamine-6-phosphate deaminase 2                                     |   |   | unknown             |
| HORMAD1              | B | HORMA domain containing 1   |   |   | Nucleus             |
| JAZF1                | B | JAZF zinc finger 1  |   |   | Nucleus             |
| KLHL29               | B | kelch-like 29 (Drosophila)  |   |   | unknown             |
| MTAP                 | B | methylthioadenosine phosphorylase                                       |   |   | Nucleus             |
| NAA25                | B | N(alpha)-acetyltransferase 25, NatB auxiliary subunit                   |   |   | unknown             |
| NANS                 | B | N-acetylneuraminic acid synthase  |   |   | Cytoplasm           |
| PLA2G4D              | B | phospholipase A2, group IVD (cytosolic)                                 |   |   | Cytoplasm           |
| SLC17A8              | B | solute carrier family 17 (sodium-dependent inorganic phosphate cotransp |   |   | Plasma Membrane     |
| SLK                  | B | STE20-like kinase   |   |   | Nucleus             |
| SNX10                | B | sorting nexin 10  |   |   | Cytoplasm           |
| SPC24                | B | SPC24, NDC80 kinetochore complex component, homolog (S. cerevisiae)     |   |   | Cytoplasm           |
| SYPL2                | B | synaptophysin-like 2  |   |   | unknown             |
| TMEM116              | B | transmembrane protein 116   |   |   | unknown             |
| C5orf56              | B | chromosome 5 open reading frame 56                                      |   |   | unknown             |
| FBXL5                | B | F-box and leucine-rich repeat protein 5                                 |   |   | Cytoplasm           |
| UBE2Z                | A | ubiquitin-conjugating enzyme E2Z  |   |   |                     |
| KIAA1462             | A | KIAA1462  |   |   |                     |
| LPAL2                | A | lipoprotein, Lp(a)-like 2, pseudogene                                   |   |   |                     |